Title (en)

SOLUTION POLYMERIZATION OF HIGH MOLECULAR WEIGHT POLY(PHOSPHOESTERS) IN TOLUENE

Title (de)

LÖSUNGSPOLYMERISATION VON HOCHMOLEKULAREN POLYPHOSPHORESTERN IN TOLUOL

Title (fr)

POLYMERISATION EN SOLUTION DE POLY(PHOSPHOESTERS) DE POIDS MOLECULAIRE ELEVE DANS DU TOLUENE

Publication

EP 0990008 B1 20021106 (EN)

Application

EP 98932808 A 19980623

Priority

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- US 88438297 A 19970627

Abstract (en)

[origin: US5952451A] A process for making a high molecular weight poly(phosphoester) composition comprising: (i) a biologically active substance; and (ii) a poly(phosphoester) with the recurring monomeric units: wherein X is -O- or -NR''-, where R'' is H or alkyl; L is a divalent organic moiety, with the proviso that L cannot have the formula R' is H, alkyl, alkoxy, aryl, aryloxy, heterocyclic, or heterocycloxy; and n is from about 25 to 2000, is described. The process comprises the steps of: (a) substantially dissolving p moles of a di-XH compound in a solvent comprising more than 75% toluene at a first temperature between about -75 DEG C. and +60 DEG C. to form a reaction mixture; (b) while maintaining the reaction mixture at the first temperature, adding q moles, where p APPROX q, of a phosphorodihalo compound; (c) gradually increasing said first temperature at a rate of less than about 1.5 DEG C. per minute as necessary to achieve a second temperature between about 0 DEG C. and 150 DEG C., and mixing the reaction mixture at the second temperature to form the polymer of formula I; and (d) isolating the polymer of formula I. (e) incorporating the biologically active substance into the polymer of formula I.

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